AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION:

Page 2

Please amend the Specification on page 2 beginning at line 4 as follows:

Such characteristics of IGBT elements of different generations are discussed in non-patent documents 1 to 3, for instance, and the ~~turn-on~~ losses in an IGBT element based on the turn-on losses and a saturation voltage across a collector and an emitter are discussed in non-patent document 4. Patent document 1 discloses a technique for controlling a motor used in an air conditioner or a cooling device. Patent document 2 discloses a technique for modularizing an inverter unit and a converter unit.

Page 4

Please amend the Specification on page 4 beginning at line 24 as follows:

———The switching element is an IGBT element, for example. In the step (b), an increment (ΔEsw) of turn-on losses in rated current value of the IGBT element having the second breakdown voltage with reference to turn-on losses (EL) in rated current value of the IGBT element having the first breakdown voltage is defined as a divisor, the product of a first value, a second value, and a third value is defined as a dividend, the first value (VL -ΔVce) being obtained by subtracting an increment (ΔVce) of a saturation voltage of the IGBT element having the second breakdown voltage with reference to a saturation voltage (VL) of the IGBT element

having the first breakdown voltage from the saturation voltage (VL), the second value (Icp) being ~~voltage,~~ a maximum value ~~(Icp)~~ of an output current of the inverter in terms of sinusoidal wave, and the third value being (π / 16). ~~16), is defined as a dividend.~~ The IGBT element having the second breakdown voltage is selected in an area with a lower switching frequency (fsw) of the inverter than the result obtained by dividing the dividend by the divisor._____

Page 10

Please amend the Specification on page 10 beginning at line 2 as follows:

Further in consideration of static losses PD in a free wheeling diode typically added to an IGBT element, losses PA in the whole IGBT element are expressed by Equation (4). The static losses PD in the free wheeling diode are expressed by Equation (5), where a forward voltage drop Vec ~~VEC~~ with the current flow of the maximum value Icp is introduced.

Please amend the Specification on page 10 beginning at line 15 as follows:

It has been known experimentally that the turn-on switching losses Esw(on) and turn-off switching losses Esw(off) are almost the same, and that the saturation voltage Vce(sat) across a collector and an emitter of the IGBT element and the forward voltage drop Vec ~~VEC~~ of the free wheeling diode are almost the same. Thus, Equation (4) can be expressed as Equation (6).

Page 11

Please amend the Specification on page 11 beginning at line 12 as follows:

The dynamic losses in IGBT as expressed by the first term on the right side of Equation (6) are independent of the rated voltage of a load. On the other hand, the static losses in IGBT as expressed by the second term on the right side of Equation (6) depend on the rated voltage of a load. More specifically, when loads are required of the same amounts of work, the current value Icp ~~ICP~~ is inversely proportional to the rated voltages of the loads, and thus the static losses are also inversely proportional to the rated voltages of the loads.

Page 18

Please amend the Specification on page 18 beginning at line 2 as follows:

Likewise, a fifth-generation 1200 V IGBT element Z2 has turn-on losses Esw(on) of 1.10 mJ/pulse, and a difference from the turn-on losses in a 600 V IGBT element Q3 of the same generation is almost 0.1 mJ/pulse. A difference in turn-on losses between the IGBT element Z2 and a 600 V IGBT element Q4 of the same generation is almost 0.56 mJ/pulse. Fig. 4 concerning the IGBT element Q3 shows that the losses are smaller in the IGBT element having a breakdown voltage of 1200 V when an increment ΔEsw of turn-on losses is ~~almost~~ 0.2 mJ/pulse or less and the switching frequency fsw is 7 kHz. Fig. 5 concerning the IGBT element Q4 shows that the losses are smaller in the IGBT element having a breakdown voltage of 1200 V when an increment ΔEsw of turn-on losses is 0.80 mJ/pulse or less and the switching frequency fsw is 7 kHz.

Page 12

Please amend the Specification on page 22 beginning at line 2 as follows:

The present invention is applicable not only when a single-phase AC power supply is employed, but when a three-phase AC power supply is employed. Fig. 8 is a circuit diagram illustrating the configuration of a three-phase voltage doubler circuit. When compared with the circuit shown in Fig. 7, the single-phase AC power supply 1 ~~and~~ is replaced with a three-phase AC power supply 13, and the diode bridge 22 is replaced with a diode bridge 23. The diode bridge 23 includes three capacitors for performing voltage doubler rectification. Again in this case, a DC voltage subjected to voltage doubler rectification is supplied to the inverter 42 via the smoothing circuit 32. Therefore, the aforementioned effects can be obtained by applying the present invention to form the inverter 42 with high-breakdown-voltage elements.